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# TORREYA

Vol. 32

May-June, 1932

No. 3

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## The pronunciation of botanical names

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Since the beginning of modern botanical science, names of Latin derivation or latinized form have been given to plants. A few botanists have attempted to ridicule the custom by using names of a different form, such as the meaningless combinations of letters used by Adanson, but these attempts are mostly forgotten. Throughout the world botanists are now accustomed to Latin names, under modern codes of nomenclature such form is obligatory, and the usage may now be considered one of the basic features of scientific terminology.

One of the chief difficulties in the oral use of such names lies in the diverse manners of pronunciation. At every gathering of botanists variations in pronunciation are heard. In most cases these cause no confusion among professional botanists, although they sometimes produce a ripple of laughter, but they may be and frequently are confusing to the younger botanist or amateur, and they certainly indicate a lack of uniformity among botanists.

Our only present means of readily ascertaining a pronunciation acceptable at least to some botanists is to consult current manuals, in which the accented vowel and its quantity are indicated by a grave or acute mark. I have an idea that most botanists do not follow these recommendations in every case. If the reader is interested, he might pronounce the following common generic names, to assure himself of his own methods, and then consult the seventh edition of Gray's Manual to see if he is really orthodox: *Althaea*, *Anemone*, *Conium*, *Empetrum*, *Eriogonum*, *Hypericum*, *Itea*, *Lechea*, *Picea*, *Pilea*, *Reseda*, *Urtica*. Then if he wishes a greater surprise, he can try *Physostegia* and *Pycnanthemum*.

It is hazardous for a botanist to attempt to discuss the matter of pronunciation in the face of possible criticism from classi-

cists and almost certain criticism from those botanists with whom he does not agree, yet a few lines on the subject may not be out of place.

No matter what system of pronunciation may be followed, the American botanist is always affected by certain peculiarities of the English language, and these must be mentioned first. In our language, in every word of more than one syllable, with the possible exception of some compound words, one or more syllables receive the peculiar explosive stress known as accent. The usage of our language also demands that not more than two unaccented syllables be adjoining. This leads to the development of secondary accents in most polysyllabic words and makes words without such accents difficult to pronounce, as *anonymously* and *inexplicable*. Secondly, the stress of accent is in most words begun and ended by a consonant sound, even though these sounds must often be borrowed from the adjacent syllables and in some cases even from the next word. The accented syllable then consists, in actual usage, of two consonants and a vowel sound, no matter whether this agrees with the rules of syllabification or not. Thus we regularly say *e-con'-omy* and *an-tip'-athy*. Thirdly, a definite quantity is given to the accented vowels, while the unaccented ones are wholly or partially slurred into a general sound of short *u* or short *i*. Thus *American* is ordinarily pronounced *u-mer'-ucun* (not *u-murr-ucun*, as some of our English cousins believe). These three tendencies are so firmly implanted in the English language, both in England and America, that they affect the pronunciation of botanical names.

With these peculiarities of our language in mind, it is seen that the pronunciation of such names depends chiefly upon the proper location of the accented syllables, upon the quantity given to the vowels in them, and upon the sounds given to the consonants.

In general, there are two methods of procedure open to us. We may follow the classical pronunciation according to the rules taught in our schools, or we may regard the names as merely technical English words, on a par with molecule, carburetor, microtome, or endosperm, and apply English pronunciation accordingly.

There are several reasons why classical pronunciation should not be followed. While almost all scientific names are of latin-

ized form, they are not all of Latin or even of classical origin. Actual census of the generic names in Gray's Manual shows that 48 per cent of them are of Greek origin, 21 per cent of Latin origin, 18 per cent are commemorative names, and 12 per cent are miscellaneous in character. Practically four-fifths of them are not of Latin derivation, and there is little reason why one-fifth of the names should determine the pronunciation for all the rest. Of course, a much greater proportion of specific names are actually Latin adjectives.

If classical pronunciation is to be followed, it should be followed consistently, and this involves a number of difficulties in execution. It requires, in the first place, a classical education of an extent which few of us receive in these days of specialization. And if we possess this education and follow classical pronunciation exactly, we may again have some difficulties and meet with some apparent inconsistencies. Thus we must say *kee-koo-ta* for *Cicuta*, not *sy-cue-ta*; for *Dicentra* we must say *dee-ken-tra* instead of *dye-sen-tra*, in direct contravention of the general rule in our language governing the pronunciation of the letter *c*. We should say *nutañs*, not *nutans*, although the spelling carries no indication of the nasal *n*; *P'hiladelphus*, not *Philadelphia*; *Rossa*, not *Rōsa*, and one hesitates to guess how *Zizia* should be pronounced. Then the final *m* of Latin words, according to certain classicists, receives different pronunciations depending on the initial letter of the following word, and instead of *Lilium* we must say *Liliun tigrinum*, *Liliung canadense*, and *Liliu longiflorum*. Also we have to dispose of certain sounds which did not exist in the Latin at all, such as the *sh* of *Shortia* and the *th* of *Erythronium*. Besides the difficulty of achievement, this method of pronunciation sometimes destroys all oral resemblance of a scientific name to its English equivalent and thereby conceals the meaning of the name from all except those with a classical education. Thus a common specific name pronounced *keeliahta* bears little audible resemblance to the cognate English word *ciliate*.

The location of the accented syllables is also a matter of difficulty. Half of our generic and a few of our specific names are taken from the Greek, in which the accent was probably musical in nature. In the Latin language, the nature of the accent is

somewhat problematical, but it very likely was not an accent of stress as in English.

The chief difficulty encountered through accentuation is the concealment of the derived meaning of the term. In many generic names, and in some specific ones also, the connecting syllable between two roots carries the accent, as indicated in our current manuals. Since the English custom joins the two adjacent consonants with the accented vowel and slurs the remaining vowels in pronunciation, the actual meaning of the two roots is completely hidden. Thus *Ammo-phila* (sand-loving) becomes *Am-moph'-ila*; *Echino-chloa* (hedgehog-grass) becomes *Eck'-inock'-loa*; *Dryo-pteris* (wood-fern) is *Dry-o-p'-teris* or even *Dri-yop'-teris*, introducing a sound of *p* which is silent in *Pteris*. Numerous other similar cases will occur at once to the reader. In each of these the significant syllables of the roots, which by separate accents make plain and prominent the derived meaning of the name, are slighted or slurred in favor of the meaningless connecting syllable. Would it not be more expressive to a student, who has learned the word *xylem* and the root *xanth* in plant anatomy and physiology, to say *Zan'-tho-xy'-lum* instead of the meaningless *Zan-thox'-ylum*? One of my own students, hearing the name of a tree pronounced *Quercus bi'-color*, said "Now I know what that name means, two colors. I always heard it pronounced *bickeler* before."

There are of course numerous instances of similar words in ordinary speech, such as *thermometer*, *barometer*, and *kilometer*. Such words are now beyond possibility of change, except through the slow evolution of the language, but how much more expressive are *thermo-meter*, *baro-meter*, and *kilo-meter*. The Germans certainly understand the classics as well as we do, and probably much better on the average, yet they seem to get along well with *thermo-meter* and *kilo-meter*.

Another and particularly unfortunate result of the classical system in determining accent is seen in its application to various commemorative names. Oakes and Hales, with monosyllabic names of good English origin, are commemorated in genera which we are asked to pronounce *O-kees'-ia* and *Ha-lees'-ia*. *Harper'-ia* and *Nel-sōn'-i* are not so bad, but *Rosy-eye* (*Rosei*) reminds one of a certain disease and *Jesupi* is almost intolerable, either as *Je-sūp'-i* or *Je-soop'-i*. By the way, was there a

*j* in Latin? If so, how was it pronounced? Poor Jesup is certainly ineffectively commemorated in *Yes-soop'-i*.

It is also unfortunate that words of similar structure are frequently required to carry the accent in different places, depending on the quantity of the vowel in the second root. Thus we are asked to say *Po-lyg'-onum* and *Pol'-ypog'-on*; *Cal-lit'-riche* and *Cal'-opog'-on*, the former in each cases meaningless as pronounced, the latter expressive. We are even advised to say *Lobelia lep-tos'-tachys* and *Phryma lep'-tostach'-ya*. In many cases the classical accent also causes some difficulty in pronunciation, as in *Leu-coc'-rinum*, *acamp-toc'-lados*, and *bra-chys'-tachys*. How much easier these tongue-twisters become when pronounced *Leuc'-o-crin'-um*, *a-camp'-to-clad'-os*, and *brach'-y-stach'-ys*.

Now scientific names represent, in a way, a universal language among botanists, but in that sense they are used as written terms instead of spoken. It is the rare exception that they are used as common oral terms between persons speaking different languages. There is accordingly no reason why these terms, written always the same, should not be pronounced differently in different languages, depending on the custom and usage of the language employed. We have abundant precedent already for variable pronunciation in geographical terms: we say Paris, not Paree, the English say Pōt'-omac, not Po-tom'-ac, and the Germans may even say Yova instead of Iowa, yet no confusion results. American tourists succeed in visiting Versailles, but how they do pronounce it!

I wonder whom we are imitating, whose rules we are following, when we call the spruce either *Picea* or *Pícea*, pronouncing the *c* soft? According to Latin rules as I learned them we should say *Pe-kay-a*, but our European friends say *Pe-tsay'-a* and still seem quite content. And if we can modify Rosaceae from the Latin *Ro-sock'-ā-i* into the current English *Ro-zāce'-ē-ē* and the German *Ro-za-tsay'-e*, why should we not feel equally at liberty to disregard classical principles in other cases as well?

Would you have appreciated, understood, or visualized botanical names better when you first learned them, would your students grasp them better now, if they were pronounced according to the general principles outlined below?

Commemorative names based on words of English origin or

use to be pronounced to conform as nearly as practicable with the root, as *Oak'-esia* (silent e), *Nel'-soni*, *List'-era*, *Har-per'-ia*.

Commemorative names based on foreign words to receive English pronunciation similar to that given other English words of like character, as *Thā'-lia*, not *Tōll'-ia*; *Michauxii* with the x sounded like z, not like ks or silent.

Names derived from a single classical root to have the accent, vowels, and consonants as nearly as practicable like the cognate English word, as *ōvā'-ta* (ovate), *ciliā'-ta* (ciliate).

Names from a single root without cognate English words, whether classical or not in origin, to be accented according to classical rules, with vowel and consonant sounds as in common English usage for similar words, as *Tē'-coma* (or *Te-cōm'-a*), *Cār'-ya*, *Āc'-er*, *Quērc'-us*, *Lār'-ix*.

Names from two roots to be accented to preserve the sound of both and when possible given vowel sounds in accordance with cognate English words or syllables, as *Mōn'-o-trōp'-a*, *Zānth'-o-xyl'-um*.

Changes in the gender or form of a root or the addition of a prefix or suffix, not to change the vowel-quantity or accent, except when required by the peculiarities of our language, as *Crīn'-um* and *Leūc'-o-crīn'-um*, *Pōl'-y-pōg'-on* and *Pōl'-y-gōn'-um*, *lěp'-to-stăch'-ys* and *lěp'-to-stăch'-ya*.

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